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Non Invasive Imaging

PERICARDIAL FAT DOESN'T IMPACT ATRIAL FIBRILLATION ABLATION OUTCOMES

Poster Contributions

Hall C

Sunday, March 30, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Non-Coronary Cardiac CT

Abstract Category: 18. Non Invasive Imaging: CT/Multimodality, Angiography, and Non-CT Angiography

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Introduction: The impact of pericardial fat as assessed by CT scan on outcomes after atrial fibrillation (AF) ablation is not known.

Methods: We performed pericardial fat volume (PFV) assessment by volume rendering method from CT scans of all consecutive patients undergoing AF ablation at our institute. Baseline characteristics, procedural variables and outcomes were extracted from a prospective AF registry.

Results: A total of 522 patients with acceptable quality CT scans and 1 year follow-up were included in the study. Mean age of the population was 60 ± 10 years with 136 (30%) patients with paroxysmal AF. Mean CHADS2 score was 1.18 ± 0.93 . Mean PFV was 6.49 ± 2.0 cm³. Advanced age ($p < 0.001$), persistent AF ($p < 0.001$), diabetes mellitus ($p < 0.001$), coronary artery disease ($p < 0.001$), prior stroke ($p = 0.040$), COPD ($p = 0.031$), obstructive sleep apnea ($p < 0.001$), higher CHADS2 score ($p = 0.001$) and larger LA size ($p = 0.012$) predicted higher PCV. Success, as defined as maintenance of sinus rhythm off antiarrhythmics at 12 month follow-up, was achieved in 377 (72.2%) patients. In multivariate regression analysis, the independent predictors of success were left atrial size ($p = 0.007$), paroxysmal AF ($p = 0.019$) and high CHADS2 score ($p = 0.002$). After adjustment for standard predictors, PFV was not a predictor of success after AF ablation ($p = 0.109$).

Conclusion: PFV is strongly associated with multiple co-morbidities and worse AF substrate;

however, it did not independently predict success after AF ablation.

Variable	Absent	Present	p value
Hypertension	5.9 \pm 1.9	6.7 \pm 2.0	<0.001
Coronary Artery Disease	6.3 \pm 2.0	7.1 \pm 2.1	<0.001
Persistent AF	5.8 \pm 1.9	6.7 \pm 2.1	<0.001
Diabetes Mellitus	6.2 \pm 2.0	7.4 \pm 2.0	<0.001
Obstructive Sleep Apnea	6.1 \pm 2.0	7.1 \pm 2.2	<0.001
CHADS2 \geq 2	6.2 \pm 2.0	6.9 \pm 2.1	0.001
COPD	6.4 \pm 2.0	7.1 \pm 2.2	0.031
Differences in the mean Pericardial Fat Volume across various patients groups			